

Jimsonweed (*Datura stramonium*)





Jimsonweed (*Datura stramonium*)

*National Drug Intelligence Center
319 Washington Street, 5th Floor
Johnstown, PA 15901-1622
(814) 532-4601*

Jimsonweed

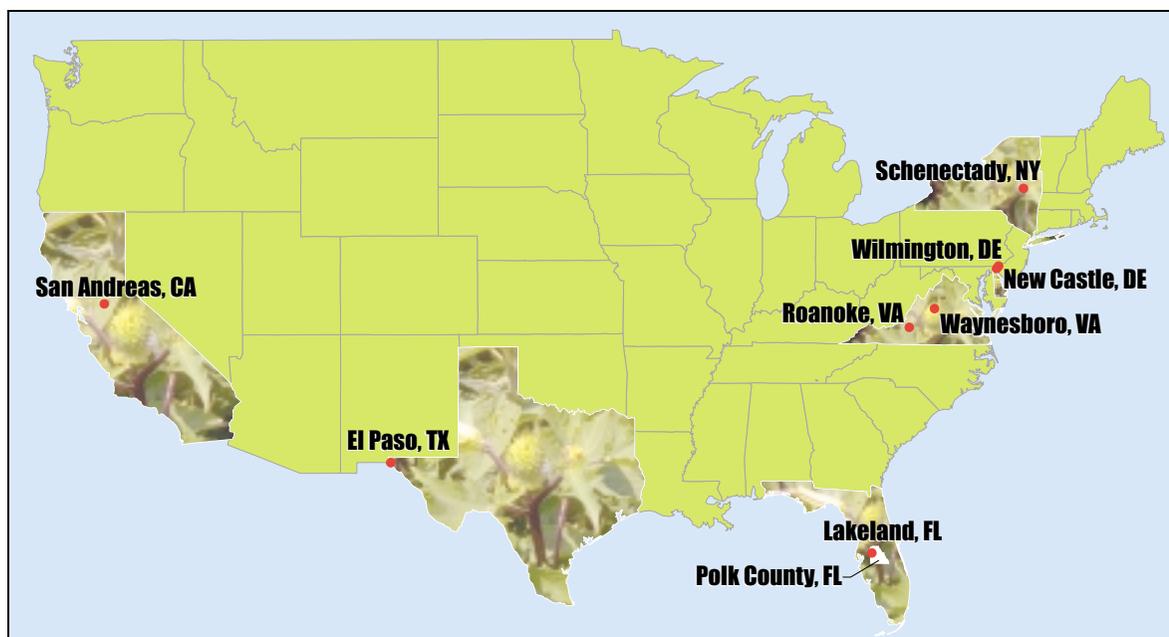
(Datura stramonium)

Executive Summary

High school students seeking a no-cost hallucinogenic high may turn to jimsonweed (*Datura stramonium*) as an alternative to costly drugs. Easy access and limited legal restrictions make jimsonweed a viable substitute for other highs, particularly in areas where the plant is prevalent and the availability of other drugs is limited.

Jimsonweed is usually consumed in herbal tea concoctions; however, the seeds, leaves, and flower nectar can also be eaten or smoked. The high experienced by users often includes delirium and hallucinations, and there is no antidote for jimsonweed poisoning—only treatment. Symptoms associated with jimsonweed use often include blurred vision, confusion, agitation, and combative behavior. Available data indicate that 1994 was a peak year for *Datura stramonium* exposures. Incidents remained relatively high through 1995, but declined sharply in 1996, probably because of an increased awareness of the plant's harmful effects.

While use of jimsonweed, which grows wild throughout the continental United States, has been sporadic and is expected to remain so, ingestion has led to seizures, coma, and even death. Jimsonweed is not scheduled under the Controlled Substances Act; however, New Jersey, Connecticut, and Tennessee are among states that have passed some form of legislation to control jimsonweed. Heightened awareness of the “bad high” and potentially deadly consequences of jimsonweed use is key to curbing the appeal of this plant.



Location of Jimsonweed Poisonings, 1997–98.

This page intentionally left blank.

Table of Contents

Executive Summary	iii
Background	1
Description, Composition, and Physical Effects	1
Availability and Abuse	2
Legal Status	3
Analyst Comments	3

This page intentionally left blank.

September 1998

Jimsonweed (*Datura stramonium*)

IA Timothy A. Forberger

Analytical Branch-A1



Background

The negative effects of jimsonweed ingestion have been recognized in America since the late 17th century, when British soldiers died after consuming the plant in the colony of Jamestown—hence the name “Jamestown weed.” Plants of the genus *Datura* are used by Native American cultures for drug-induced ceremonial and spiritual purposes. *Datura stramonium* has also been associated with witchcraft as a primary ingredient in “flying potions.” Other *Daturas*, such as Angel’s Trumpet, are used as ornamentals.

Description, Composition, and Physical Effects

Jimsonweed is a member of the nightshade family which includes plants such as belladonna. Other common names for jimsonweed include thornapple, loco weed, Jamestown weed, Angel’s Trumpet, and Devil’s Trumpet. The plant is an annual, growing up to a height of 5 feet. Upon maturity, the plant releases tiny black seeds from spiny capsules. (See Figure 1, p. 2.) The flowers are trumpet shaped and either white or purple. While all parts of the plant are toxic, the seeds contain the highest level of toxicity.¹

The primary psychoactive substances in jimsonweed are the alkaloids atropine and scopolamine. Atropine has been used in treating Parkinson’s disease, peptic ulcers, diarrhea, and bronchial asthma.² It is also used to treat nerve gas poisoning.³ Scopolamine is available by prescription primarily for treating motion sickness. It has also been used as an adulterant with heroin. During a 24-hour period in December 1995, at least 60 heroin users in Newark, New Jersey, died after using heroin tainted with scopolamine.

Jimsonweed is commonly consumed in herbal tea concoctions. The seeds, leaves, and flower nectar can also be eaten or smoked. The high experienced by users often includes delirium, delusions, hallucinations, disorientation, and incoherent speech. Often users do not recall the experience.

Ingestion of jimsonweed can lead to seizures, coma, and death. Symptoms include dry mucous membranes, difficulty swallowing and speaking, blurred vision, photophobia, hyperthermia, confusion, agitation, combative behavior, and hallucinations. These effects can occur within 30 to 60 minutes after ingestion. Symptoms can continue for 24 to 48 hours because the alkaloids present in jimsonweed retard the digestive process.⁴

1. Jimsonweed description: “Indiana Plants Poisonous to Livestock and Pets,” Cooperative Extension Service, Purdue University, April 16, 1998.

2. David M. Gellerman, *Ritual Prescription of Datura and Ipomoea Intoxication: A Brief Survey*. University of Southern California, Spring 1991.

3. Robert E. Ward, Jr., *The Binary Chemical Weapons Program*. Political Science, M.I.T., May 1983.

4. Centers for Disease Control, *Morbidity and Mortality Weekly Report*. Vol. 44 No. 3, January 27, 1995.



Figure 1. Seeds and Dried Capsules.

There is no antidote for jimsonweed poisoning. Treatment normally includes pumping the patient’s stomach and administering activated charcoal to absorb the contaminants. The drug physostigmine, a mild nerve agent, is used in severe cases.⁵

Availability and Abuse

Jimsonweed grows wild throughout the continental United States along roadsides, in cultivated fields, overgrazed pastures, and vacant lots.⁶ Cultivation of jimsonweed has been attempted. Several teenagers in Schenectady, New York, planted a field of jimsonweed that was uncovered by health officials following the hospitalization of five of the teens for jimsonweed poisoning in November 1997.

Numerous Internet sites provide descriptions of jimsonweed and its mind-altering powers. Some of the sites accentuate the hazards of using jimsonweed, while others describe the “magical” uses of *Datura*. One Internet site displays a bulletin board where several people have posted requests for *Datura*, jimsonweed, and seeds, while

others have posted offers to sell jimsonweed. Interestingly, most people who post information on various other Internet sites about personal experiences with the plant do not recommend its use, because it is such a “bad trip.”

According to data obtained from the American Association of Poison Control Centers (AAPCC),⁷ 1994 witnessed a dramatic increase in incidents of *Datura stramonium* exposures nationwide. As Figure 2 below reveals, incidents remained high through 1995 and declined sharply in 1996, the last year of available data. From 1991 until the increase in 1994, exposures were relatively stable. It is possible that the decline in 1996 is attributable, in part, to increased media attention to the plant’s negative effects. Additionally, it appears that jimsonweed poisonings have not recurred in the same high schools over the past few years. It is likely that peer perception of jimsonweed becomes negative following unpleasant experiences with the plant.

	Total number of <i>Datura stramonium</i> exposures by Year					
	91	92	93	94	95	96
	314	345	318	598	541	189

Figure 2. *Datura stramonium* Incidents, 1991–96.

The AAPCC data do not distinguish between accidental and intentional *Datura stramonium* exposures; however, open-source information supports the contention that teenagers are using jimsonweed for its hallucinogenic effects. See Figure 3, p. 3, for data on some recent cases of jimsonweed abuse. The map on p. iii shows the location of these cases.

5. Ibid.

6. Vet Med Library, University of Illinois at Urbana-Champaign.

7. AAPCC is a private corporation that acts as a clearinghouse for the various Poison Control Centers throughout the United States. The data for *Datura stramonium* exposures was obtained from Annual Reports of the AAPCC National Data Collection System, courtesy of Rose Ann G. Soloway, RN, MEd, ABAT, Administrator.

Date	Location	Number of Teenagers	Result(s)
APR 1998	Roanoke, VA	3	3 hospitalized
MAR 1998	Waynesboro, VA	2	1 intensive care, 1 coma
NOV 1997	New Castle, DE	2	2 erratic behavior
NOV 1997	Schenectady, NY	5	5 hospitalized: 1 intensive care, 1 jumped from window
OCT 1997	San Andreas, CA	14	8 hospitalized: 1 intensive care
OCT 1997	El Paso, TX	2	2 hospitalized
OCT 1997	Polk County, FL	4	4 hospitalized: 1 kidney damage
SEP 1997	Wilmington, DE	18	18 hospitalized: 6 intensive care
APR 1997	Lakeland, FL	1	1 hospitalized

Figure 3. Jimsonweed Cases Reported 1997–98.

The most recent noted fatality occurred in July 1995, when a 15-year-old girl reportedly drank tea made from jimsonweed and drowned in the High Line Canal in Colorado. In June 1994, two teenage boys, ages 16 and 17, died after consuming jimsonweed root tea with alcoholic beverages at a desert location near El Paso, Texas.

Legal Status

Jimsonweed is not scheduled under the Controlled Substances Act. However, because of limited safety and efficacy data, the Food and Drug Administration (FDA) holds that the belladonna alkaloids contained in *Datura stramonium* are neither safe nor effective in over-the-counter cough and cold inhalants.⁸

New Jersey, Connecticut, and Tennessee are among states that have passed legislation to control jimsonweed. In New Jersey, any person who uses or is under the influence of, or who possesses or has under his control, in any form, any *stramonium* preparation, unless obtained from, or on a valid prescription of, a duly licensed physician, veterinarian, or dentist, is a disorderly person.⁹ Further, prosecutors in New Jersey are empowered to dispatch agents to destroy wild, cultivated, or hidden growth beds of *stramonium* located anywhere within their county upon written

confirmation of the presence of *stramonium* from the State Department of Health. Connecticut considers *Datura stramonium* a “restricted drug or substance.”¹⁰ Tennessee considers it a Class A misdemeanor “offense for a person to deliver, sell, or possess the seed of the *gentiana lutea* [*sic*] plant, also known as jimsonweed, on the premises or grounds of any school, grades kindergarten (K) through twelve (12).”¹¹

Analyst Comments

Jimsonweed is a dangerous, albeit generally legal, hallucinogen which is being abused by young people across the country. Instances of jimsonweed poisonings are sporadic, and abuse of the plant is not expected to ever reach the level experienced with other popular illegal drugs. However, the easy access and limited legal restrictions associated with jimsonweed make it a viable substitute for other highs—especially in locations where jimsonweed is prevalent and the availability of other drugs is limited. Heightened awareness of the dangers associated with a potentially lethal toxin, which produces anything but a “good high,” is key to preventing jimsonweed from ever becoming a significant threat.

8. *Code of Federal Regulations*. Title 21 Food and Drugs, Chapter I Food and Drug Administration Department of Health and Human Services, Subchapter D Drugs for Human Use, Part 310 “New Drugs.” 63 FR 24380, current through May 1, 1998.

9. *New Jersey Statutes*. 2A:170-77.8 (1997).

10. *Connecticut General Statutes*. 21a-240 (1997).

11. *Tennessee Code Annotated*. 39-17-426 (1997).

This page intentionally left blank.